

**Notice of Allowability**

Application No.

10/612,057

Examiner

Yubin Hung

Applicant(s)

CURRY ET AL.

Art Unit

2624

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed 02/05/07.
2. ☒ The allowed claim(s) is/are 4,6-8,12,14 and 15.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
  1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date 3/13/07
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

***Response to Amendment/Arguments***

1. In response to applicant's amendment and argument, along with Examiner's Amendment below, the objection to the specification, has been withdrawn
  
2. In response to applicant's amendment, along with Examiner's Amendment below, the 35 U.S.C. 112 rejections of claims 6, 7, 14 and 15 have been withdrawn

**EXAMINER'S AMENDMENT**

3. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with applicant's representative Mr. Robert M. Jackson on March 30, 2007.

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**4. The application has been amended as follows:**

On the specification

- P. 23, 2<sup>nd</sup> paragraph, line 1: replace "PDL MRC Segmentation Module 25" with "PDL Segmentation Module 26"

On the claims (with reference to the amendment filed 02/05/07)

- Claim 4, line 9: add a comma (",") after "contains white"
- Claim 8: Insert the following between lines 8 and 9 (i.e., before the line beginning with "(d) determining if a pixel is white ~~then multi-bit~~"):  
    wherein creating a multi-bit selector signal  
    further comprises the steps of
- Claim 14, line 9: replace "if the 3x3 neighborhood" with "if a 3x3 neighborhood"

***Allowable Subject Matter***

5. Claims 4, 6-8, 12, 14 and 15 as amended above are allowed.

6. The following is an examiner's statement of reasons for allowance:

A. Regarding claims 4, and similarly claims 6, 12 and 14, closest art of record Crain and Queiroz disclose all limitations of its parent, claim 1. In addition, Li et al. (US 6,909,806) discloses whether a pixel should be changed to a background pixel based on the classification probability, among other things, of pixels in its neighborhood (e.g., 5x5) and Cork et al. (US 7,110,585) uses a neighborhood (e.g., 7x7) surrounding to determine whether the pixel belongs to the background or foreground.

However, none of the recited references, alone or in combination, disclose, suggest or teach setting the pixel as strong foreground (respectively, background) as long as at least one pixel in a 3x3 neighborhood centered at the pixel is white (respectively, black), regardless whether the pixel in question is black, white or otherwise.

B. Regarding claim 7, and similarly claims 8 and 15, in addition to Crain and Queiroz, closest art of record Li et al. (US 6909806) further discloses using a 5x5 window centered at the pixel in question that contains either foreground or

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background pixels (i.e., exactly two classes) with the pixel in question belonging in either class and further revise the classification of the pixel in question using information from pixels in the window. [See Fig. 4, refs. 102, 104, 122-128 and Col. 6, line 32-Col. 7, line 15.]

However, none of the recited references, alone or in combination, disclose, suggest or teach that if a 3x3 neighborhood of a pixel contains exactly two classes of pixels, then designates the pixel a strong foreground pixel if it belongs to the darker class and a strong background pixel otherwise.

7. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

#### ***Contact Information***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yubin Hung whose telephone number is (571) 272-7451. The examiner can normally be reached on 7:30 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew C. Bella can be reached on (571) 272-7778.

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The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Yubin Hung  
Patent Examiner  
Art Unit 2624  
March 30, 2007



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